Joint Annual Meeting of ÖPG and SPS 2021



Contribution ID: 268

Type: Poster

## [571] Party-local Clifford transformations of graph states

Tuesday 31 August 2021 19:10 (1 minute)

We consider graph states under party-local Clifford transformations (PLC). Such transformations arise e.g. in quantum networks where shared entanglement between spatially close nodes complements local operations. Bravyi et al solved PLC equivalence of graph states for 3 parties via the introduction of an entanglement generating set (EGS), a finite set of states into a collection of which every graph state decomposes uniquely under PLC. We show that EGS is infinite for  $\geq 3$  parties and that finding states in the EGS is equivalent to the classification of tuples of alternating matrices. Moreover, we generalize the notion of local complementation, which describes the action of local Clifford transformations on graph states.

Authors: KRAUS, Barbara; ENGLBRECHT, Matthias (University of Innsbruck); KRAFT, Tristan

**Presenter:** KRAFT, Tristan

Session Classification: Poster Session

Track Classification: Quantum Information and Quantum Computing